EFFECT OF SERUM 25 HYDROXY CHOLECALCIFEROL ON GLYCEMIC STATUS AND LIPID PROFILE IN TYPE 2 DIABETES MELLITUS

ABSTRACT

Introduction :

Type 2 Diabetes Mellitus is a non communicable disease caused by increased insulin resistance and beta cell dysfunction. Vitamin D increases intestinal calcium absorption which decreases the synthesis and secretion of hepatic triglycerides and also decreases the absorption of fatty acids in the intestine due to the formation of insoluble calcium- fatty acid complexes. Cholesterol level is reduced by promoting the conversion of cholesterol into bile acids. Assessment of the serum vitamin D level in type 2 diabetes mellitus patients will help in preventing further complications.

Objective:

- To estimate serum 25 hydroxy cholecalciferol and lipid profile and HbAIC in Type 2 diabetes mellitus patients and to correlate the level of HbA1C in type 2 diabetes mellitus .
- To correlate the level of serum 25 hydroxy cholecalciferol with fasting and postprandial blood sugar and HbA1C in type 2 diabetes mellitus.
- To associate vitamin D with lipid profile in type 2 diabetes mellitus patients.

Material and Methods:

The cross sectional study included 139 type 2 Diabetes Melitus cases in the age group of 40-60 years of both sexes. For the study 5ml of fasting venous blood was collected and aliquoted in to two tubes. Out of which 2 ml of blood was collected in EDTA tube for HbA1C estimation and the remaining volume of blood was collected in plain serum tube and serum was separated after centrifugation for estimation of vitamin D, blood sugar, serum lipid profile, serum urea and creatinine.

Results:

The patients are grouped into three groups according to their vitamin level and results are compared. There is a highly significant correlation between vitamin D, blood sugar and lipid profile.

Conclusion:

Vitamin D is a regulator of cell proliferation & differentiation involved in type 2 diabetes mellitus. This study reveals that low vitamin D level might be one of the risk factor in high glycemic index Type 2 Diabetic patients. Because of its effect on glycemic status and lipid profile, it might affect the precipitating risk factors for the onset of prognosis of diabetic complication. Regular vitamin D screening in high risk patients and vitamin D supplementation and fortification of food with Vitamin D is needed to attain good glycemic control.

Key words:

Type II Diabetes mellitus, HbA1C, Vitamin D, Lipid profile, FBS and PPBS